



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

28 FEB 1986

MEMORANDUM

SUBJECT: Responses to Four VOC Issues Raised by the Regional Offices and Department of Justice

FROM: Gerald A. Emison, *[Signature]*
Office of Air Quality Planning and Standards

TO: Air Management Division Directors
Regions I, III, V and IX

Air and Waste Management Division Director
Region II

Air, Pesticides, and Toxics Management Division
Directors
Region IV and VI

Air and Toxics Division Directors
Regions VII, VIII and X

In the attachments, I am transmitting responses to four VOC issues identified by the Regional Offices and DOJ through the VOC Compliance Workgroup. As you may know, absence of policy addressing these VOC issues was being presented as an impediment to Regional and State efforts in returning VOC violators to compliance.

On June 27, 1985, the first draft of the attached responses, as well as draft responses to many other VOC issues, were circulated for comment. On August 21 and 22, various Regional and Headquarters representatives met to discuss these first drafts. A second draft of each issue was circulated to the Regional Offices under two separate memoranda, dated October 25 and December 12. The attached responses incorporate the various comments received.

FEB 25 1998

ECDC

Under previous correspondence issued January 31, 1986 from SSCD and January 17, 1986 from OECM, four other responses have been transmitted to you. Therefore, eight issues have been addressed to date. Many of the remaining proposed responses raise significant policy issues which need to be addressed. We are working to expedite these responses and to assure any necessary coordination with the work of the Ozone Task Force.

I appreciate the efforts of the Regions in commenting on the various drafts of the attached four issues and hope that you find them helpful in resolving some of the issues concerning VOC enforcement.

Attachments

cc: VOC Compliance Workgroup
Regional Counsel, Regions I-X

Issue

What is the Agency's enforcement response for sources subject to pending bubbles, specifically for bubbles in areas lacking an approved attainment demonstration?

Response

The June 28, 1984 guidance on "timely and appropriate" enforcement response for significant air violators addressed the situation of timely enforcement for sources subject to SIP revisions. The guidance states that EPA will routinely issue NOV's, if not already issued, 120 days following the violation (or shortly after) if the violation is not resolved in accordance with the guidance. Follow up to the NOV is warranted unless EPA determines, in consultation with the State, that continued deferral to the State activity will produce timely compliance.

Where the State activity is a SIP revision (bubbles are SIP revisions), the revision must, by day 120, at least have been scheduled for a State hearing and EPA staff-level review shows it likely to be approved. Where the SIP revision is unlikely to be approved, EPA is obligated under the "timely and appropriate" guidance to issue a NOV on day 120 and follow up with its own enforcement action as appropriate.

Sources subject to SIP revisions in areas that are classified as attainment are not subject to the "timely and appropriate" guidance unless a specific State-EPA agreement addresses such sources. However, such sources remain subject to enforcement by EPA. The criteria for deferral outlined in the "timely and appropriate" guidance may be useful for addressing such situations even though the timelines may not be applicable.



Gerald A. Emison, Director
Office of Air Quality Planning and Standards

28 FEB 1986

Date Signed

Issue: Are there any site-specific RACT limits being set?

Response: Site-specific RACT determinations are required for > 100 T/yr stationary sources not covered by a CTG where (1) sources are located in urbanized areas that did not attain by 1982 and (2) for urbanized areas that have requested an extension until 1987. In addition, case-by-case RACT determinations are allowable where the CTG suggested limit has been found to be technologically or economically infeasible. These case-by-case RACT determinations must be approved by EPA as source-specific SIP revisions.

Site-specific RACT determinations have been ^{made} for a number of > 100 T/yr stationary source categories not covered by CTG's. Examples of this are Region IV RACT determinations for aluminum foil plants, woodworking plants, etc. Region I reportedly is making RACT determinations for a large number of sources. For example, more than 30 site-specific non-CTG RACT determinations in the State of Massachusetts will be submitted as SIP revisions to EPA in the near future. Also, a number of case-by-case RACT determinations have been made for CTG site-specific sources in Massachusetts in the past.

Case-by-case RACT determinations are allowable under EPA policy for both CTG and non-CTG source categories where appropriate.

The VOC RACT Clearinghouse is available and should be used for ensuring Regional consistency in RACT determinations for similar site-specific source categories.



Gerald A. Emison, Director
Office of Air Quality Planning and Standards

28 FEB 1988

Issue

What baseline year should be used for determining VOC percent emissions reductions as per State SIP regulations?

Response

° There is no one particular year that can be considered to be the baseline year for compliance purposes for all source categories. The baseline year is generally considered to be the effective date of the emission control regulation for the source category.

° The SIP itself, however, should be checked to determine if it contains language affecting baseline year determinations. It is possible that in approving the SIP either EPA or the State commented on this issue, thus providing guidance to sources. If there is no contrary guidance in the SIP, the general rule stated above should take effect.

° The stated issue and response relate to individual source compliance rather than to a SIP planning baseline or emissions trading issue. SIP baselines are defined in current policy and the issue of baselines relative to trading is covered in the various Agency policy documents on trading.

° The issue is only applicable to "percent reduction" types of regulations. A regulation based strictly on "VOC content" (e.g., lbs VOC/gal coating or percent solvent regulations, etc.) or add-on control equipment percent requirements, would not require a baseline date as compliance would be based only on a comparison against the SIP emission limits.

° The "percent reduction" requirement applies to the emission rate as expressed in terms of VOC content, not to total VOC emissions. That is, the percent reduction applies against the pre-control coatings/inks formulations, not to the emissions in mass per unit of time. This is consistent with the intent of the CTG's. The pre-control coatings/inks formulations used as the baseline in determining percent reductions must be representative of the coatings/inks in use at the time the regulation became effective.



Gerald A. Emison, Director
Office of Air Quality Planning
and Standards

2 & F.

Date Signed

ISSUE

Is an exemption for use of incinerators in non-ozone season appropriate? How can we justify suing sources for failure to utilize controls during non-ozone season in SIPs where there is no exemption?

RESPONSE

The origin of the policy on seasonal controls began when EPA issued guidance on July 28, 1976 which authorized procedures for the approval of SIP revisions allowing seasonal operation of certain gas-fired afterburners. Such revisions could be accomplished without a detailed, time-consuming analysis of air quality impact so long as the seasonal shutdown period was consistent with that delineated in a staff study ("Oxidant Air Quality and Meteorology," February 6, 1976) and if the existing air quality showed no past violations in the months during which the afterburners were shut down.

On December 1, 1980, in a memorandum to the Regional Offices titled "Revised Seasonal Afterburner Policy" (attachment 1), EPA further stated that any plan revision which provided for afterburner shutdown in the period of November through March outside of southern California and the Gulf Coast should be proposed for approval.

It is important to note that the policy applies to gas-fired afterburners installed to control emissions of volatile organic compounds (VOCs) for the purpose of reducing ambient ozone concentrations. It does not apply to flares (which do not use natural gas as an auxiliary fuel), VOCs vented to boilers, afterburners operated principally for odor control, or afterburners operated to control toxic or hazardous substances. It is also important to note that the policy on seasonal control of afterburners can only be implemented through the SIP process. The EPA does not have a general exemption regarding seasonal controls of VOC gas-fired afterburners.

A second category of sources to which seasonal controls can be applied through the SIP process are cutback asphalt facilities. In some SIPs, control of these facilities is required only during the summer months.

In 1984, EPA, through the Office of Air and Radiation considered whether to expand the categories of sources to which such seasonal policies could apply. ("Seasonal Volatile Organic Compound (VOC) Control and Phillips Petroleum," dated September 21, 1984 (attachment 2)) The decision was made not to expand the scope of the policy primarily because:

- Only a relatively small additional cost savings could be expected from any expansion of the policy.

- Exposure to toxic emissions might increase.
- Pursuing such an initiative could disrupt VOC control efforts at a time of uncertain implementation.
- Scarce resources might have to be diverted from current programs to prepare the necessary administrative actions.
- The control flexibility in the program already available might be jeopardized since Section 302(K) of the Clean Air Act, passed subsequent to EPA's seasonal afterburner policy, requires controls on a "continuous basis."

It was for the above reasons that the recommendation was made to implement the existing policy as presently written.

Thus, the policy concerning seasonal control of afterburners can be implemented only if a State submits, and EPA approves, a SIP provision providing for seasonal operation. In the absence of such a provision, sources are obligated under State and federal law to continuously operate afterburners as necessary to meet applicable emission limits. EPA expects sources to meet their legal obligations, and is directed by Sections 113 and 120 of the Clean Air Act to take corrective enforcement action if a source fails to do so. The justification for enforcing SIP requirements providing for the continuous operation of afterburners rests with this directive in the Clean Air Act. SIP standards are initially developed by the States and can be more stringent than required by the Clean Air Act and EPA policy. Once federally effective, the SIP requirements are to be met by sources and enforced by the States and EPA.



Gerald A. Emison, Director
Office of Air Quality Planning
and Standards

28 FEB 1986

Date Signed

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DATE: DEC 01 1980

SUBJECT: Revised Seasonal Afterburner Policy

FROM: Walter C. Barber, Director
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air and Hazardous Materials Division
Regions I-X

On July 28, 1976, the Agency issued its policy on the "Seasonal Operation of Natural Gas-Fired Afterburners." This policy authorized the approval of SIP revisions without a detailed, time-consuming analysis of air quality impact if the seasonal shutdown period was consistent with that delineated in a staff study ("Oxidant Air Quality and Meteorology," February 6, 1976) and if existing air quality showed no past violations in the months during which the afterburners were shut down. Because of the nation's continuing need to conserve energy resources and because of the revision to the national ambient air quality standard for ozone, we have reconsidered a portion of this policy.

An analysis of available ambient air quality data concluded that exceedances of the revised national ambient air quality standard for ozone do not occur in the November through March period, except for areas of southern California and the Gulf Coast. As a result of this analysis, it is appropriate at this time to modify the "seasonal afterburner policy" to state that any plan revisions which provide for afterburner shutdown in the period of November through March outside of southern California and the Gulf Coast should be proposed for approval. All other portions of the original policy remain unchanged, namely:

- (1) The policy applies to gas-fired afterburners installed to control emissions of volatile organic compounds (VOCs) for the purpose of reducing ambient ozone concentrations. It does not apply to flares (which do not use natural gas as an auxiliary fuel), VOCs vented to boilers, afterburners operated principally for odor control, or afterburners operated to control toxic or hazardous substances; and

- (2) A policy to seasonally control afterburners can only be implemented through the SIP process. The attached staff report, supported by air quality data, should be adequate technical support for approving a SIP revision allowing for seasonal shutdown of afterburners in a given location.

It is recommended that you notify the State agencies in your Region that EPA supports a policy which permits sources to shut off afterburners during the months of November through March except for areas of southern California and the Gulf Coast. Should you have any questions in this regard, please contact Mr. Richard G. Rhoads, Director, Control Programs Development Division, Office of Air Quality Planning and Standards at FTS 629-5251.

Attachment

cc: Chief, Air Programs Branch, Regions I-X

MEMORANDUM

SUBJECT: Seasonal Volatile Organic Compound (VOC) Control

~~and Phillips Petroleum~~

Joseph A. Cannon

FROM: Joseph A. Cannon, Assistant Administrator
for Air and Radiation (ANR-443)

TO: Milton Russell, Assistant Administrator
for Policy, Planning, and Evaluation (PM-219)

This is with regard to your Memorandum of June 15, 1984, discussing seasonal VOC control and the Phillips Petroleum Federal Register notice. Your memorandum suggests that expanding seasonal VOC control beyond the existing afterburner policy offers significant promise as a control cost-savings initiative. You also expressed concern that the Office of Air and Radiation (OAR) was attempting to revoke the existing seasonal afterburner exemption in the Phillips Petroleum package. I would like to address these two issues separately.

SEASONAL CONTROL

We can understand your perspective regarding expanded seasonal VOC control since intuitively it is quite appealing to not control pollutants if they clearly are not causing an air pollution problem. However, such a seemingly simple approach has a number of potential pitfalls which need to be considered prior to pursuing such an initiative. The Office of Air Quality Planning and Standards' (OAQPS') review of your recommendations has reached the following conclusions:

- Substantial control flexibility already exists under the current policy in the area of greatest payoff; hence, only relatively small additional cost savings can be expected from an expansion.
- Exposure to toxic emissions may increase.
- The basis for no further control in several listing decisions under Section 112 may be undermined.
- Pursuing such an initiative at this time may disrupt VOC control efforts at a time of uncertain transition to implementation.

- Resources in State, local, Regional, and Headquarters Offices may need to be diverted away from current programs to prepare the necessary administrative actions.
- The substantial control flexibility already available under the current policy may be jeopardized.

Our basis for these conclusions is discussed below.

No Major Payoff Can Be Expected

The VOC emissions can be reduced through incineration, other add-on controls, or low-solvent technology. While a few individual sources may still realize significant savings through an expanded seasonal VOC control policy, the bulk of the savings available has been addressed through the existing seasonal afterburner exemption. The consultant study prepared by your staff confirms our initial conclusions regarding the limited potential for cost savings from expanding this policy. The following is taken from that analysis:

Twenty-three (23) RACT source categories were examined to determine whether any of them could be major beneficiaries from an extended seasonal control policy. This examination indicates that most sources within these categories are unlikely to have major savings directly attributable to discontinuance of existing VOC control measures under such a policy extension due to the following reasons:

- They employ control measures which are integral to the process equipment (e.g., submerged fill pipes, floating roofs, etc.) and which cannot be disabled.
- RACT consists of switches to inherently low polluting processes (e.g., substitution of solvent-based to low- or no-solvent coatings). Such sources are unlikely to switch back because: (a) there is little financial incentive to do so, (b) the quality of product using low or no solvent coatings is acceptable, and (c) there will be costs associated with a changeover.
- Several sources have no add-on or other controls and, therefore, are unable to benefit from an extended SCP because they currently use bubbles as an effective method of complying with RACT. This attests to the success of the bubble policy.
- Many sources that can benefit from a seasonal control policy already do so since they are equipped with natural gas fired incinerators. These are exempt from wintertime operation under

the current SCP. However, it should be noted that not all incinerators are able to use the current exemption from natural gas fired incinerators because: (a) some incinerators have dual fuel capability and may, therefore, be ineligible for exemption in certain jurisdictions, (b) some sources seem to be unaware of the exemption, (c) other sources have integrated their incinerator into the general process and/or winter space heating system so that the recovered heat from the incinerator is now indispensable, and (d) as is their prerogative under Section 116 of the Clean Air Act, several State and local agencies do not provide exemptions for natural gas fired afterburners on a routine basis.

- For many sources, savings due to recovery of VOCs are sufficiently high so that they have no incentive to disable controls.

Major beneficiaries from any shutdown of controls resulting from an extended seasonal control policy will be those sources that use (or will use) end-of-pipe control devices for RACT and can neither use, sale nor burn recovered (i.e., collected) VOCs. Based on this observation, the categories most likely to benefit are: graphic arts (especially flexography) and paper coating.

With regard to flexographic and paper coaters, only those who install incinerators without heat recovery could realistically expect to benefit from the policy (very few have), and they have already been addressed through the existing policy.

Toxic Emissions May Increase

The most visible adverse impact to the public will be the potential increase in toxic emissions. The Agency has maintained that significant reductions in toxic emissions will accrue through VOC control for ozone. The majority of the chemicals being studied for toxicity as air pollutants are VOC. Table I illustrates that 29 of the 37 substances under assessment exist as VOC. Further, in some cases, it is not the primary constituent of the VOC but simply one of many constituents. For example, gasoline vapor is a major source of benzene. Also, coatings are formulated with solvents composed of many compounds which can and are changed. Hence it is not a simple task to determine whether a particular source has an adverse toxic impact or whether in the future it will continue to have an adverse impact. Given this complexity, toxic emissions may likely be emitted from sources in increased quantities if the policy is expanded indiscriminately. Even if this were not true, the perception of its possibility would require greater reporting requirements and/or technical support before the Agency could responsibly take such a general step.

Basis for Section 112 Decisions Will be Undermined

Decisions regarding controlling or not controlling toxic chemicals under Section 112 often hinge on the incremental environmental impact of additional control requirements. The baseline considers the existing SIP and whether there is a SIP requirement to provide some control. Expansion of seasonal afterburners will undermine this basis. As an example, bulk terminals are a significant source of gasoline vapor and benzene emissions. Lifetime risk of cancer due to high exposure to gasoline in the vicinity of uncontrolled terminals has a plausible upper bound of 1.2×10^{-3} . This is the highest-risk source category in the gasoline marketing chain for benzene and gasoline vapors. While the Agency has yet to decide to control bulk terminals for benzene, the existence of SIP requirements obviously mitigates the risk. This analysis using the SIP baseline would be suspect if the Agency announced expansion of the seasonal VOC policy allowing exemption periods for VOC. This same problem will reoccur in a number of listing decisions presently being made.

Disruption of Present VOC Control Efforts

The less quantifiable but potentially greater adverse impact is the additional disruption such a policy may cause State agencies. States presently feel overwhelmed by the demands the VOC program has placed on them. To add an additional requirement to an already complex regulatory program may adversely affect SIP approvals and compliance.

Further, most of these regulations are to be implemented soon. Final compliance dates have either passed or will pass in 1985. To provide sources with a potential new vehicle to argue that compliance requirements should be deferred may undermine the present Agency initiatives to move away from planning and into implementation. This initiative runs the risk of being the straw that breaks the proverbial camel's back.

Diversion of Resources

The administrative burden of preparing an expanded seasonal VOC policy is not inconsequential. Rulemaking which could be as extensive as that which is presently underway for the emission trading policy will be necessary to formally promulgate the policy. Following issuance of the policy, States will have to undergo individual rulemaking activity to provide for seasonal controls in their plans. Subsequently, individual Federal rulemaking will be required to incorporate the State rules into the Federal SIP. Therefore, even presuming no litigation, a significant fraction of what we, the States and local agencies are presently expending in the SIP planning exercises may have to be expanded on adopting and implementing this initiative. This can only be accomplished by diverting activity away from areas where environmental improvement is being accomplished (e.g., inspections, compliance activity, Group III CTG adoption). Once the policy is issued, processing SIP revisions is a nondiscretionary duty. Significant allocations of resources will be necessary to address what is a major administrative task.

While the administrative burden is not insurmountable, it is real and could adversely affect compliance. It will take an investment on the part of States and EPA to surmount these administrative demands. The available resources are limited. Given the lack of identified benefits, it does not seem to be worth the effort.

Jeopardizing the Present Policy

Proposing an expansion of the seasonal VOC policy for notice and comment is not without risk. As it now stands the present policy provides significant flexibility to those who most can use it--users of gas-fired afterburners. Reopening the policy introduces the risk of a challenge to the entire policy. The present exemption for gas-fired afterburners was adopted as a narrow exercise of administrative discretion. The primary basis for approval was the natural gas supply shortage which existed in the mid-1970's. The energy availability situation has changed significantly since that time. Hence, this basis may no longer be available if this policy were reopened. Moreover, efforts were made in the initial policy to distinguish this from intermittent control systems previously used by sulfur dioxide sources. Since this policy was initially issued, the Clean Air Act Amendments of 1977 added Sections 123 and 302(k) to expressly require continuous controls. While neither development necessarily invalidates the present policy, both result in additional complexities. As your staff noted, there are those who would like to see the present policy rescinded. By opening the issues, you may provide them a vehicle to accomplish the very opposite goal you seek.

For these reasons, I recommend we continue to implement the existing policy on seasonal control as it is presently written. For all its warts, the present policy works. It provides significant flexibility for those who can most use it, has been accepted, and can continue to be implemented without significant additional rulemaking or resource burdens. The most prudent course of action appears to be to leave the policy alone.

PHILLIPS PETROLEUM

The Office of Air and Radiation (OAR) had no intention of revoking the existing seasonal afterburner policy in the notice. The original wording of this Federal Register notice explained in some detail why the seasonal afterburner policy did not apply in this instance, and did not place the policy into its statutory context, even though the original wording provided an adequate basis for disapproving this particular application. Given the Office of Management and Budget's (OMB's) tendency to ask for a statutory basis for EPA disapprovals when a policy is cited, I think it is prudent to modify the disapproval language to reflect the statute rather than explain why the afterburner policy does not apply in hopes of avoiding extensive interplay with OMB on this package.

I do not believe it has any precedential value for any future exemptions the Agency might wish to pursue since we would have to take notice and comment on any policy change to expand the use of seasonal controls. It is not clear what you mean by narrowing our basis for disapproval since there is no policy to ever approve such an action.

Further, given the benzene/gasoline vapor toxicity issue discussed above, using this action as a vehicle to announce consideration of expanding the seasonal VOC policy seems ill advised. Based on the discussion above, I have concurred on the disapproval package and have forwarded it to OMB.

Attachment

cc: Indur Goklany, RRS
Michael Levin, RRS
William Pedersen, OGC
✓ Ed Reich, OAQPS
Gerald Emison, OAQPS
Darryl Tyler, OAQPS
Barbara Bankoff, OAR
Paul Stolpman, OAR

Table 1

37 Potentially Toxic Substances Under EPA Assessment

A. Substances that exist in the ambient air primarily as particles (8)

Beryllium	Maleic Anhydride*
Cadmium	Manganese
Coke oven emissions	Nickel
Dioxin (2, 3, 7, 8-TC D)*	Polychlorinated Biphenyls*

B. Substances that exist in the ambient air primarily as volatile organic compounds (29)

Acetaldehyde	Formaldehyde
Acrolein	Hexachlorocyclopentadiene
Acrylonitrile	Methyl Chloroform
Allyl Chloride	Methylene Chloride
Benzyl Chloride	Nitrobenzene
Carbon Tetrachloride	Nitrosomorpholine
Chloroene	Perchloroethylene
Chloroform	Phenol
Chloroprene	Phosgene
Cresol	Propylene Oxide
p-Dichlorobenzene	Toluene
Dimethyl Nitrosamine	Trichloroethylene
Epichlorohydrin	Vinylidene Chloride
Ethylene Dichloride	Xylene
Ethylene Oxide	

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- * Although these organic compounds can exist in the ambient air as either particles or gases, these substances will be considered particles for the purposes of this analysis.